

SEQUENCE LISTING

<110> Zhu, Zhenping

<120> Bispecific Immunoglobulin-Like Antigen Binding Proteins and Method of Production

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<141> 2001-05-24
<150> US 60/206,749
<151> 2000-05-24

<160> 34

<170> WordPerfect 8.0 for Windows

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<213> Mouse

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Gly Phe Asn Ile Lys Asp Phe Tyr Met His
1 5 10

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Trp Ile Asp Pro Glu Asn Gly Asp Ser Gly Tyr Ala Pro Lys Phe Gln
1 5 10 15

Gly
17

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Tyr Tyr Gly Asp Tyr Glu Gly Tyr
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Ser Ala Ser Ser Ser Val Ser Tyr Met His
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Ser Thr Ser Asn Leu Ala Ser
1 5

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Gln Gln Arg Ser Ser Tyr Pro Phe Thr
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Gln Val Lys Leu Gln Gln Ser Gly Ala Glu Leu Val Gly Ser Gly Ala
1 5 10 15

Ser Val Lys Leu Ser Cys Thr Thr Ser Gly Phe Asn Ile Lys Asp Phe
20 25 30

Tyr Met His Trp Val Lys Gln Arg Pro Glu Gln Gly Leu Glu Trp Ile
35 40 45

Gly Trp Ile Asp Pro Glu Asn Gly Asp Ser Gly Tyr Ala Pro Lys Phe
50 55 60

Gln Gly Lys Ala Thr Met Thr Ala Asp Ser Ser Asn Thr Ala Tyr
65 70 75 80

Leu Gln Leu Ser Ser Leu Thr Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Asn Ala Tyr Tyr Gly Asp Tyr Glu Gly Tyr Trp Gly Gln Gly Thr Thr
100 105 110

Val Thr Val Ser Ser
115

<210> 8
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Asp Ile Glu Leu Thr Gln Ser Pro Ala Ile Met Ser Ala Ser Pro Gly
1 5 10 15

Glu Lys Val Thr Ile Thr Cys Ser Ala Ser Ser Ser Val Ser Tyr Met
20 25 30

His Trp Phe Gln Gln Lys Pro Gly Thr Ser Pro Lys Leu Trp Ile Tyr
35 40 45

Ser Thr Ser Asn Leu Ala Ser Gly Val Pro Ala Arg Phe Ser Gly Ser
50 55 60

Gly Ser Gly Thr Ser Tyr Ser Leu Thr Ile Ser Arg Met Glu Ala Glu
65 70 75 80

Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Arg Ser Ser Tyr Pro Phe Thr
85 90 95

Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys Arg Ala
100 105

<210> 9
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<400> 9

ggcttcaaca ttaaagactt cttatgcac 30

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<400> 10

tggattgatc ctgagaatgg tgattctggg tatgccccga agttccaggg c 51

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<211> 24
<212> DNA
<213> Mouse

<400> 11

tactatggtg actacgaagg ctac 24

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agtgcagct caagtgtaaag ttacatgcac 30

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agcacatcca acctggcttc t 21

<210> 14
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<400> 14

cagcaaagg a gtagttaccc attcacg

27

<210> 15
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<212> DNA
<213> Mouse

<400> 15

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tcctgcacaa ctctggctt caacattaaa gacttctata tgcaactgggt gaagcagagg 120
cctgaacagg gcctggagtg gattggatgg attgatcctg agaatggtga ttctggttat 180
gccccgaagt tccagggcaa ggccaccatg actgcagact catcctccaa cacagcctac 240
ctgcagctca gcagcctgac atctgaggac actgccgtct attactgtaa tgcatactat 300
ggtgactacg aaggctactg gggccaaggg accacggtca ccgtctcctc a 351

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ataacctgca gtgccagtc aagtgttaat tacatgcact gttccagca gaagccaggc 120
acttctccca aactctggat ttatagcaca tccaaacctgg ctctggagt ccctgctcgc 180
ttcagtggca gtggatctgg gacctttac tctctcacaa tcagccgaat ggaggctgaa 240
gatgtgcca cttattactg ccagcaaagg agtagttacc cattcacgtt cggtcgcccc 300
accaagctgg aaataaaacg ggcg 324

<210> 17
<211> 15
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<400> 17

Gly Gly Gly Gly Ser Gly Gly Gly Ser Gly Gly Gly Ser
1 5 10 15

<210> 18
<211> 45
<212> DNA
<213> Mouse

<400> 18

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45

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<400> 19

Gly Gly Gly Gly Ser Gly Gly Gly Ser
1 5 10

<210> 20

<211> 15

<212> DNA

<213> Mouse

<400> 20

ggtgtggaggcg gttca

15

<210> 21

<211> 17

<212> PRT

<213> Mouse

<400> 21

Trp Ile Asp Pro Glu Asn Gly Asp Ser Asp Tyr Ala Pro Lys Phe Gln
1 5 10 15

Gly

17

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<211> 117

<212> PRT

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Gln Val Lys Leu Gln Gln Ser Gly Ala Glu Leu Val Gly Ser Gly Ala
1 5 10 15

Ser Val Lys Leu Ser Cys Thr Thr Ser Gly Phe Asn Ile Lys Asp Phe
20 25 30

Tyr Met His Trp Val Lys Gln Arg Pro Glu Gln Gly Leu Glu Trp Ile
35 40 45

Gly Trp Ile Asp Pro Glu Asn Gly Asp Ser Asp Tyr Ala Pro Lys Phe
50 55 60

Gln Gly Lys Ala Thr Met Thr Ala Asp Ser Ser Ser Asn Thr Ala Tyr
65 70 75 80

Leu Gln Leu Ser Ser Leu Thr Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Asn Ala Tyr Tyr Gly Asp Tyr Glu Gly Tyr Trp Gly Gln Gly Thr Thr
100 105 110

Val Thr Val Ser Ser
115

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<211> 106
<212> PRT
<213> Mouse

<400> 23

Asp Ile Glu Leu Thr Gln Ser Pro Ala Ile Met Ser Ala Ser Pro Gly
1 5 10 15

Glu Lys Val Thr Ile Thr Cys Ser Ala Ser Ser Ser Val Ser Tyr Met
20 25 30

His Trp Phe Gln Gln Lys Pro Gly Thr Ser Pro Lys Leu Trp Ile Tyr
35 40 45

Ser Thr Ser Asn Leu Ala Ser Gly Val Pro Ala Arg Phe Ser Gly Ser
50 55 60

Gly Ser Gly Thr Ser Tyr Ser Leu Thr Ile Ser Arg Met Glu Ala Glu
65 70 75 80

Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Arg Ser Ser Tyr Pro Phe Thr
85 90 95

Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 24
<211> 51
<212> DNA
<213> Mouse

<400> 24

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<210> 25
<211> 351
<212> DNA
<213> Mouse

<400> 25

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tcctgcacaa cttctggctt caacattaaa gacttctata tgcaactgggt gaagcagagg 120
cctgaacagg gcctggagtg gattggatgg attgatcctg agaatggta ttctgattat 180
gccccgaagt tccagggcaa ggccaccatg actgcagact catcctccaa cacagctac 240
ctgcagctca gcagcctgac atctgaggac actgccgtct attactgtaa tgcatactat 300
ggtgactacg aaggctactg gggccaaggg accacggta ccgtctcctc a 351

<210> 26
<211> 318
<212> DNA
<213> Mouse

<400> 26

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ataacctgca gtgccagctc aagtgtaaat tacatgcact ggttccagca gaagccaggc 120
acttctccca aactctggat ttatagcaca tccaacctgg cttctggagt ccctgctcgc 180
ttcagtgccat gtggatctgg gacctttac tctctcacaa tcagccaat ggaggctgaa 240
gatgctgcca cttattactg ccagcaaagg agtagttacc cattcacgtt cggctcgaaa 300

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318

<210> 27
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<212> PRT
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Gln Val Lys Leu Gln Gln Ser Gly Ala Glu Leu Val Gly Ser Gly Ala
1 5 10 15
Ser Val Lys Leu Ser Cys Thr Thr Ser Gly Phe Asn Ile Lys Asp Phe
20 25 30
Tyr Met His Trp Val Lys Gln Arg Pro Glu Gln Gly Leu Glu Trp Ile
35 40 45
Gly Trp Ile Asp Pro Glu Asn Gly Asp Ser Gly Tyr Ala Pro Lys Phe
50 55 60
Gln Gly Lys Ala Thr Met Thr Ala Asp Ser Ser Ser Asn Thr Ala Tyr
65 70 75 80
Leu Gln Leu Ser Ser Leu Thr Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95
Asn Ala Tyr Tyr Gly Asp Tyr Glu Gly Tyr Trp Gly Gln Gly Thr Thr
100 105 110
Val Thr Val Ser Ser Gly Gly Ser Gly Gly Ser Gly
115 120 125
Gly Gly Gly Ser Asp Ile Glu Leu Thr Gln Ser Pro Ala Ile Met Ser
130 135 140
Ala Ser Pro Gly Glu Lys Val Thr Ile Thr Cys Ser Ala Ser Ser Ser
145 150 155 160
Val Ser Tyr Met His Trp Phe Gln Gln Lys Pro Gly Thr Ser Pro Lys
165 170 175
Leu Trp Ile Tyr Ser Thr Ser Asn Leu Ala Ser Gly Val Pro Ala Arg
180 185 190
Phe Ser Gly Ser Gly Ser Gly Thr Ser Tyr Ser Leu Thr Ile Ser Arg
195 200 205
Met Glu Ala Glu Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Arg Ser Ser
210 215 220
Tyr Pro Phe Thr Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys Arg Ala
225 230 235 240

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<212> PRT
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<400> 28

Gln Val Lys Leu Gln Gln Ser Gly Ala Glu Leu Val Gly Ser Gly Ala
1 5 10 15

Ser Val Lys Leu Ser Cys Thr Thr Ser Gly Phe Asn Ile Lys Asp Phe
 20 25 30
 Tyr Met His Trp Val Lys Gln Arg Pro Glu Gln Gly Leu Glu Trp Ile
 35 40 45
 Gly Trp Ile Asp Pro Glu Asn Gly Asp Ser Asp Tyr Ala Pro Lys Phe
 50 55 60
 Gln Gly Lys Ala Thr Met Thr Ala Asp Ser Ser Asn Thr Ala Tyr
 65 70 75 80
 Leu Gln Leu Ser Ser Leu Thr Ser Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Asn Ala Tyr Tyr Gly Asp Tyr Glu Gly Tyr Trp Gly Gln Gly Thr Thr
 100 105 110
 Val Thr Val Ser Ser Gly Gly Gly Ser Gly Gly Gly Ser Gly
 115 120 125
 Gly Gly Gly Ser Asp Ile Glu Leu Thr Gln Ser Pro Ala Ile Met Ser
 130 135 140
 Ala Ser Pro Gly Glu Lys Val Thr Ile Thr Cys Ser Ala Ser Ser Ser
 145 150 155 160
 Val Ser Tyr Met His Trp Phe Gln Gln Lys Pro Gly Thr Ser Pro Lys
 165 170 175
 Leu Trp Ile Tyr Ser Thr Ser Asn Leu Ala Ser Gly Val Pro Ala Arg
 180 185 190
 Phe Ser Gly Ser Gly Ser Gly Thr Ser Tyr Ser Leu Thr Ile Ser Arg
 195 200 205
 Met Glu Ala Glu Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Arg Ser Ser
 210 215 220
 Tyr Pro Phe Thr Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys
 225 230 235

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43

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30

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<211> 52

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic primer

<400> 31

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52

<210> 32

<211> 36

<212> DNA

<213> Artificial Sequence

<220>

<223> Signal

<400> 32

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36

<210> 33

<211> 19

<212> PRT

<213> Artificial Sequence

<220>

<223> leader peptide

<400> 33

Met Gly Trp Ser Cys Ile Ile Leu Phe Leu Val Ala Thr Ala Thr Gly
5 10 15

Val His Ser

19

<210> 34

<211> 32

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic primer

<400> 34

tctcgccgg cttaagctgc gcatgtgtga gt

32